Abstract

A gas turbine plant, wherein a plurality of first gas turbines positioned coaxially with compressors and a second gas turbine positioned coaxially with a generator are rotated by a coolant heated by heat energy provided by the fission of a coated particle fuel. A flow in a bypass passage is controlled by controlling the opening of bypass valves of (n·1) in quantity which bypass the first gas turbines on up to (n·1) shafts in starting. Accordingly, the rotational speeds of the first gas turbines on up to (n) shafts are increased to a rated rotational speed in order starting at the initial stage on the upstream side of a high temperature gas cooled reactor toward the lower stage for each shaft.